# Almanac of the Future

A STORY OF SUCCESS

Motivational Experience No. 44

***The Mezquital Valley, in the Mexican highlands above two thousand meters above sea level, 4 hours north of Mexico City, has been for centuries the most important production area of aguamiel, the sweet juice harvested from magueys, appreciated since the times of the Aztec Empire. The climate, with a lot of sun during the day and cold nights, as well as the semi-desert vegetation favor the use of maguey and nopal cactus. The indigenous Hñähñu families, the original inhabitants of the valley, planted maguey (agave salmiana) and nopal cactus, producing pulque, the fermented drink made from aguamiel and maguey honey, a concentrated sweetener of the aguamiel (mead: an alcoholic drink made from honey). The colony and then modernity seemed to put an end to this cultural work, but there seems to be a rebirth of this ancestral agriculture, rejuvenated thanks to innovation.***

## MILKING THEIR MAGUEYS

Don Cirilo Cruz is Gregorio's father-in-law and from whom the young (now not-so-young) Gregorio learned how to harvest maguey. The maguey is a variety of the nearly 200 species of the agave genus, 150 of which are found in Mexico. Gregorio, born in Germany, came to this area to do his social service and found his new home here. Goyo, as those called Gregorio in Mexico are affectionately known, says: "*The use of the maguey is very similar to that of a dairy cow; both in the morning and again in the afternoon the plant has to be milked, and this every day*". It is an art to extract the mead from the maguey. "*The heart in the center of the plant is extracted and from there the maguey gives about a liter of mead in the morning and another liter in the afternoon. Traditionally, the liquid is sucked out with the acocote, a kind of long totuma (pot of plant origin); today, fewer and fewer people work the maguey, because the mead is perishable and has to be consumed a few hours after harvesting.*"

It is a cultural task that is not so easy, since periodically the walls in the central part of the plant have to be scraped. Goyo, who has studied the subject in depth, explains: "*A maguey plant needs seven to ten years to reach maturity; before that, it would not make sense to harvest it. A plant can be harvested for up to half a year, and depending on the skill of the person using the scraper, between 250 and 600 liters of mead can be extracted. The use of mead allows the maguey to have a longer useful life; something different happens with the production of tequila, where the whole plant is de-stemmed at once*". On average, about 10% of the magueys in a plot are harvested, that is, while some are harvested, new ones are planted and the other agaves mature on the same plot of land. This traditional agriculture of the Hñähñu culture has been practiced for centuries. In comparison, in a tequila agave plantation only blue agaves are planted, genetically identical using agrochemicals; when they reach maturity, the blue agaves are harvested by the ton, leaving


the plots 'clean'.

The families used to plant magueys and nopales, a species of opuntia of the cactus family. Nopal is used both for its fruits, prickly pear cactus and its leaves, an ingredient in several typical Mexican dishes.

## BETWEEN ANCESTRY AND INNOVATION

Since Goyo learned about this agriculture adapted to an extreme climate, he has been intrigued by the following: How to understand that a form of agriculture so well adapted to climatic and ecological factors, in addition to showing high resilience to the climatic crisis, practiced since ancient times by families in the area, is on the verge of disappearing? In his analysis Gregorio has found different adverse factors to the ancestral use of maguey. Aguamiel ferments very quickly and is therefore highly perishable. The pulque, initially fermented mead, has to reach its final destination in a few hours, while its urban markets such as Ixmiquilpan or other cities are not very close; at the same time, the demand for pulque has constantly decreased as people consume beer instead of pulque.

The maguey mead, being processed in its fresh state and extracting water by evaporation to obtain a thick liquid with about 70 percent fructose, a

honey is obtained as a sweetener with many medicinal properties; even people with diabetes can consume this vegetable honey without restriction. The adverse factor in this process is the high energy demand to achieve evaporation of the water. Due to the semi-desert vegetative layer, it is not sustainable to use the scarce woody plants as firewood for this process, which is often the case. Goyo adds that just as with milk, so it is with mead: this raw material needs to be delivered daily for processing. "*If the delivery and sale of the raw material is not guaranteed, people abandon this agricultural activity.*" This is happening in many families in the Mezquital Valley. Don Cirilo, because of his advanced age, has passed the trade to Jorge, Goyo's brother-in-law. Almost every day Jorge takes pulque to Ixmiquilpan; but it is increasingly difficult to sell pulque and the volume of sales continues to drop. Lately there has been an increase in demand for pencas, or maguey leaves. Jorge has been extracting a lot of pencas lately. "*Taking into account the slow growth of the maguey and the need to replant it, which very few people do, there is a risk of running out of plants because of this short-sighted and predatory management*".

For many people in the area and, mainly for the authorities, drought is the bottleneck for agriculture in the area. Goyo, on more than one occasion, has shown them that this is not so. When you look at the magueys in the morning, because of the extended surface of the stalks, they capture the water necessary for their growth from the morning dew; at the same time, the $CO^2$ absorption capacity of a maguey plant is twice that of a 20-year-old tree. Taking into account that with the climate crisis there is a tendency to

decrease rainfall, the maguey is one of the most resilient plants to the ecosystem and harbors the possibility of sustainable management. For Gregorio, there can be a prosperous future for maguey agriculture as long as there are innovations in two directions: a sustainable and friendly energy source, and processed products from maguey and nopal that have a secure market.

## THE SO-CALLED ALEXANDER VON HUMBOLDT

One morning in 2007 when Goyo accompanied Don Cirilo to milk the magueys, his father-in-law began to tell something that, according to Goyo, changed his life: *"They say that right here there was a farm, Finca Castel de Oro, and in 1803 the explorer Alejandro von Humboldt arrived and had a brilliant idea. The pioneer of botany found it incredible that here in the desert to make pulque we harvest its fresh juice from the magueys 365 days a year. Here he was invited the most delicious pulque in Mexico and Humboldt said that these unique flavors of the Mezquital Valley should be shared all over the world. Since it was impossible to bottle pulque because it was so perishable, Humboldt proposed making a fine distillate from pulque. He managed to distill 42 bottles of the so-called PULCAL -PULque -Castel de Oro-Alcohol. It is said that Humboldt put an end to distillation because it was not prudent to use up the little firewood available in these desert lands"*.

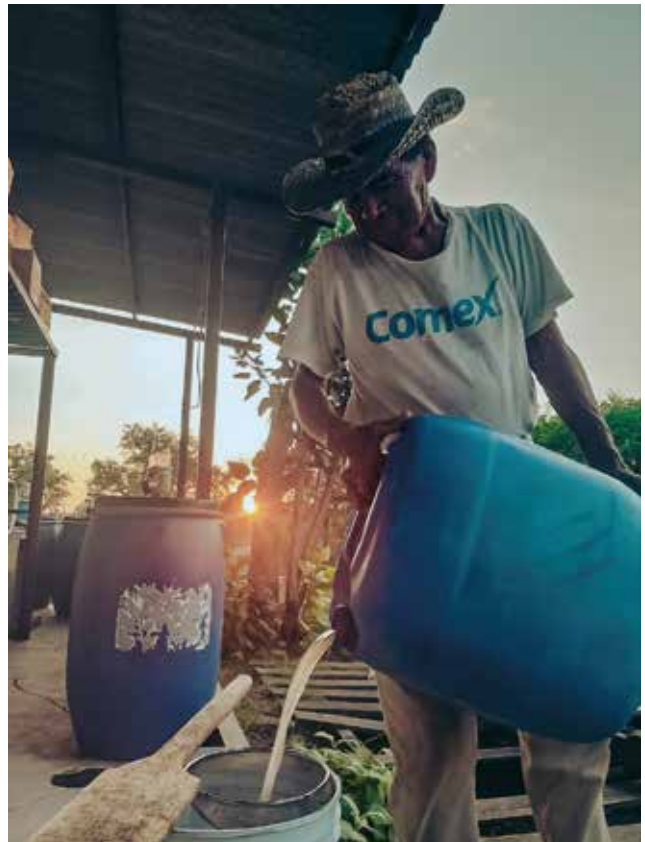
Goyo, listening to this story, which is not known for sure if it is a legend or somesomething that really happened - it is known that Alejandro von Humboldt visited the Mezquital Valley in 1803 - made a promise to Don Cirilo: *"Let's rescue the PULCAL and distill it, using the sun"*. Sixteen years have passed since then, and for some time now, Gregorio has been able to keep his promise.

On a triptych of Finca Castel de Oro, Goyo's enterprise together with María Trinidad Cruz, his wife and other collaborators, it says: *"Tradition is not the worship of ashes but the preservation of the living fire"*, and as a vision it indicates: *"We preserve alive the Hñähñu agriculture of maguey and nopal...producing food and beverages using concentrated solar energy"*. Two neighboring families deliver their mead in the morning and in the afternoon. Honey is pro-

duced in the farm's processing kitchen and in a separate section a six-hundred-liter capacity still has been installed for the production of distillates from the maguey as well as from the nopal prickly pears. With a plant that concentrates solar energy through a process that generates solar steam. In this way it has an energy that takes care of the environment as well as the economy of those who produce the honey and the distillates. Goyo explains: "*We are still at the beginning, since we cannot guarantee that many families will buy their mead, but this is exactly what we are trying to do so that families will return to planting and managing their magueys and nopales. To the extent that our products from Finca Castel de Oro have an outlet, we help preserve ancestral agriculture that is not only unique but also exemplary for the world due to its sustainability in an extreme climate*". The trend is positive, three years ago the current still was installed with three times more capacity than the previous one. Something similar has happened with the industrial steam pots for cooking the mead.

## GOLD AND SILVER AWARDS

Gregorio is an autodidact par excellence. On the subject of distillate production, he has acquired all the literature on the subject, whether it is published in Spanish, German or English. Last year he participated with two distillates in the "Concours Mondial de Bruxelles - Spirits Selection", an annual competition for wines and distillates in which




more than three thousand wines and distillates participate, evaluated by eighty independent expert tasters. *Pulcal Humboldt 1803,* distilled from fine pulque by Finca Castel de Oro, was awarded the silver medal and *Xamati*, distilled from nopal prickly pears, won the gold medal. Mexico is a country of distillates and is known for tequila and mezcal distillates. The awards of the two distillates produced by the Finca Castel de Oro in Brussels has made the entire state of Hidalgo proud. Trinidad, Goyo's wife, expresses what many people think: "*Someone who was not born here teaching us the importance and goodness of the maguey*". The same could be said by the tasters of the annual world contest in Brussels, since Goyo's distillates are surely the only ones from a solar distillation.

## MODERNITY VERSUS INNOVATED ANCESTRALITY

"*If the idea of modernity consists of declaring useless and harmful everything*


*ancestral*", Goyo shares and continues: "*we are on the wrong track; it is like wanting to grow olives here because of the climate when nobody knows how to manage this crop and there is not much olive consumption in the country either*". Perhaps it is because Goyo was born in Germany that he is convinced not to copy what is modern or imitate Europe. Finca Castel de Oro's slogan goes in this direction: "From the *milpa* (cornfield) to the sustainable bottle".

At Finca Castel de Oro we are building a future in the present, a future where everything fits: cultural identity, nature, the common good, good living and history(s). Menthi is Hñähñu, it means salud, cheers, prost: Menthi Goyo

## MESSAGES TO THE FUTURE

Between ancestry and innovation, we discover routes to authentic futures instead of the copy and paste of modernity as a sticker.

What at first glance appear to be adversities may be caterpillars where instead of butterflies, guidelines for sustainability and resilience emerge.

Is no one a prophet in his own land? Goyo shows it.

# Almanac of the Future

The text was elaborated, based on conversations in situ by Jorge Krekeler (coordinator of the Almanac of the Future - Misereor facilitator on behalf of Agiamondo) in January 2023. A big thank you goes to Gregor Schäpers and María Trinidad Cruz Paredes, with Daniel, Clarissa and David from the Finca Castel de Oro in El Sauz, municipality Cardonal, Valle del Mezquital, Hidalgo - Mexico, for the family welcome and the unlimited sharing.

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